THE INDIANA

FARMER & GARDENER.

Vol. I. **INDIANAPOLIS, MAY 17, 1845.** **No. 9.**

PUBLISHED BY
S. V. B. NOEL & CO.

TERMS.—The FARMER AND GARDENER is published *semi-monthly*, each number containing 16 royal octavo pages, at *One Dollar* per annum per copy; *Seventy-five Cents* per copy for Four and less than Ten copies; and *Fifty Cents* per copy for Ten or more copies to the same Post Office. All subscriptions IN ADVANCE.

INDIANA FARMER & GARDENER.

Indianapolis, Saturday, May 17, 1845.

To Contributors.

We sometimes defer articles kindly sent to us, until the season of the year comes in which they will be the most efficient, or, until we have investigated some matter connected with them; or, as in the case of a part of Dr. Plummer's articles, until we can personally read the proof sheets. Our editorial duties are performed in stolen moments, amid other professional engagements which, frequently, take us from home; and we therefore collect facts, hunt authorities, &c., not when we would, but when we can. Dr. Plummer's articles are always most welcome; they are full of curious and useful observation, and the observation of a highly scientific mind. We have from his pen an account of some foreign grasses, which, with other matter from him, will appear in our next.

Shade Trees.

We are heartily glad to see the disposition of our citizens to plant out shade trees. We should think that, at least, *five hundred* have, this spring, been set out in public squares and streets. The county commissioners have shown a commendable taste, in filling the court house square with trees.

Mr. Wilkins and Mr. Coburn have set an example in planting elm trees, among locusts. We hope this will be done in every street, and when, in some twenty years, the locust begins to fail, the elms will have become large trees, and a generation will rise up to call us blessed.

Crops in Marion County.

Corn.—Last year, (1844,) the months of April and May were exceedingly wet, and vast tracts of land in this State were not planted at all. The bottom lands, such as were not drowned out, and bench lands, and sandy uplands brought crops, but low grounds and clays had either no corn or but poor crops. This year has been unusually favorable, and all the corn lands of every sort, a great deal of beech land, and even the wettest corn lands are planted. The high price of corn last year has induced farmers to bring as much ground as possible under the plow. So that what with new lands, beech land, and the bottoms, there has been an unusually large planting. In the immediate vicinity of Indianapolis, about one thousand acres of the very best lands, which for a year or two past have been in hemp, have this

spring been put into corn. They will bring at least seventy-five bushels to the acre, the amount of which will, in no small degree, swell the corn crop of Marion county in 1845 over that of 1844. A gentleman who has made enquiries on the subject, and who is not apt to be mistaken, informs us that there is at least thirty-three per cent. more corn planted this year than last, in central Indiana; so that, if the season is propitious, we may expect a very great harvest of this grand staple.

Illinois with all her prairies cannot compare with Indiana—Indiana with 800,000 (in round numbers) and Illinois with 700,000 of inhabitants.

Illinois with about 700,000 inhabitants raised in 1844 about 19,600,000 bushels of corn, while Indiana with about 850,000 inhabitants raised 24,500,000 bushels. The prairies are not yet up to the bottom-lands and wood-lands. Ohio has a population of 1,800,000, or more than twice as large as Indiana; her corn crop in 1844 was 48,000,000 of bushels—not twice as many bushels. But the wheat crop of Ohio was 15,000,000, while that of Indiana was only one-third or 5,000,000 bushels.

Wheat.—The appearance of wheat is, thus far, very encouraging. Intelligent farmers think the prospect was never better. In the southern and central parts of Ohio complaints are made of the effect of the unusual drought. The Ohio State Journal, published at Columbus, says, many fields have been utterly abandoned, and that all look yellow and unhealthy. Mr. Lapham of Champaign county, writing to the Cincinnati Gazette says:

"The wheat crop in this vicinity has suffered severely by the frost and drought; as much as one-eighth of the wheat plants are entirely killed, and the whole has received such a check that it can hardly recover, so as to bring an average crop."

He also adds:

"This spring has been remarkable for cold and drought, and high winds. It has rained but once sufficiently to lay the dust, since the 10th of March, and that occurred on the night of the thirty-first of March. With this exception there has been a period of forty-three days, from the tenth of March to the twenty-third of April without rain.—The 'oldest inhabitant' says such a drought, at this season of the year has not been known since the settlement of the country. This drought cannot but be a great detriment to the crops, occurring as it does at that stage of their growth when rain is most needed."

An Exposition.

In saying that we mean to avail ourselves of the best home and foreign publications, we do not wish men to suppose that we are going to import a new system, or a foreign system, of agriculture to supplant our own. No such thing. We understand very well that every region must fashion its *system* of agriculture upon the nature of its soil, its climate, &c. The *principles* of agriculture may be alike in every zone, but the *processes* depend upon circumstances. It would be folly for a new country, without commerce, to imitate an old country with an active commerce; it would be folly, where land is cheap, abundant, and naturally fertile, to adopt the habits of those who are stinted in lands, who have a redundant population, and who find a market even for the weeds which are indigenous to their soils. The husbandry of Holland is suited to a wet soil, and of England to a humid atmosphere and a very even annual temperature. But our soil is subject to extreme wet in spring and dryness in summer, to severe cold and intense heat. A farm whose bottom-lands are reinvigorated by yearly inundations, may thrive under an exacting husbandry that would exhaust an upland farm in a few years. Modes of agriculture must be suited to circumstances. Nevertheless, the experiments and discoveries and practices of every land are worth our careful attention. We do not import *clothes*—but we do *cloth*, to be *made up* to suit our own habits and wants.

The two extremes of husbandry are, the *adoption* of every novelty and every experiment indiscriminately, and the *rejection* of every new thing and every improvement, as indiscriminately. Wisdom consists in "proving all things and holding fast that which is *good*." We do not advocate large outlays for expensive machines—for fancy cattle, for every new thing that turns up. But when, after full trial, it is ascertained what

are the best farm horses, the best breed of cattle, the best milch cows, the most profitable breed of hogs and sheep, and the most skillful routine of cultivation, we think our farmers ought to profit by the knowledge. It is never a good economy to have poor things when you can just as well have the best.—This, then, is our

Creed.

We believe in small farms and thorough cultivation.

We believe that soil loves to eat, as well as its owner, and ought, therefore, to be manured.

We believe in large crops which leave the land better than they found it—making both the farmer and the farm rich at once.

We believe in going to the bottom of things and, therefore, in deep ploughing, and enough of it. All the better if with a subsoil plow.

We believe that every farm should own a good farmer.

We believe that the best fertilizer of any soil, is a spirit of industry, enterprise, and intelligence — without this, lime and gypsum, bones and green manure, marl and guano will be of little use.

We believe in good fences, good barns, good farm houses, good stock, good orchards, and children enough to gather the fruit.

We believe in a clean kitchen, a neat wife in it, a spinning-piano, a clean cupboard, a clean dairy, and a clean conscience.

We firmly disbelieve in farmers that will not improve; in farms that grow poorer every year; in starveling cattle; in farmers' boys turning into clerks and merchants; in farmers' daughters unwilling to work, and in all farmers ashamed of their vocation, or who drink whiskey till honest people are ashamed of them.

God doth the cure, and the physician takes the money for it.

Three helping one another will do as much as six men single.

If you would have a thing kept secret, never tell it to any one; and if you would not have a thing known of you, never do it.

The sword kills many, but wine many more.

A man may talk like a wise man, and yet act like a fool.

Clean out your Cellars.

I speak to those who have cellars. If not already done, thoroughly purge this subterranean story of your house. Every onion, cabbage stump, potato vine or tuber, turnep, parsnep, carrot, and all the dirt they have made, all straw and rubbish, rake them up and out with them. The cellar is no place for them at this time of year. If you still retain a few potatoes for table use, let them be picked over and all decayed ones removed. One of the best housewives of our acquaintance, greeted us not long since, with an invitation to come and see her cellar: "I have swept down every cobweb, whitewashed the walls, swept up the floor, and sowed it with salt." Decayed vegetable matter is a fertile cause of disease, and there is enough of it out of doors, in this country, without heaping it up in the cellar for the special purpose, it would almost seem, of breeding fevers. Whitewash the walls, for lime purifies as well as beautifies. Rake down the cobwebs, they are the infallible marks of a *slattern*. Every spider that is allowed to peer out of his corner in a house, up stairs or down, undisturbed, points his long black leg in thanksgiving at the housewife, 'Hurra for folks that are not too particular.' Old legends represent witches as addicted to riding brooms. I wish that many women would get bewitched enough to do this, something more than they do. Down cellar, then, with your broom. Look now; the window is perfectly covered; there is a great sprawling gaunt spider in the corner and half a dozen empty bugs hung up like scalps to commemorate his triumphs; next to him is a great over-swollen potbellied fellow—for all the world he looks like a huge glutton; then there is a sharp, nimble, enterprising spider, below him, who has just opened an office and is keen for business, preparing to inherit like many other fellows, his neighbor's custom, who, having got rich fraudulently, will soon burst; there, too, are several pale and shadowy spiders, who look as if the cobwebs had kept them from the light until they had become quite sallow and emaciated; then there are several little round shining-black, pestilent fellows, whose legs are so long in proportion to their bodies, that

they make one think of a little potato with yard-long sprouts all over it. I say nothing of crab-spiders on the window sill, who, like metaphysicians, run backward just as easy as forwards. Just look, too, my dear madam, at the various patterns of their webs. Here is one from point to point resembling a sheet-like shelf of dusty cotton, and running, like a tunnel, into a knot hole, where stands the venomous old fellow waiting for flies, like a usurer waiting for customers. Another corner is filled up with a web like a skein of tangled silk; then there is a beautiful wheel, worked more beautifully than any lace work, while there are a multitude of base and lazy little spiders who, like many of their betters, live on other folk's webs. Well, we have talked long enough; dash your brush into that spider-village, give it a dextrous twirl, and with the whole population on the end of it, run to the door and crush them! So much for spiders.

As to salt; the only advantage of salt in a cellar, that occurs to us, is its effect in destroying snails, bugs, and that fungus vegetation called mould. It will do this. But it attracts moisture from the atmosphere and renders a cellar damp. If your cellar is very dry and sandy, you may use salt without detriment. But if too damp it will make the matter worse.

Colman's European Agriculture.

Mr. Henry Colman, went to Great Britain in April of 1843 to make a general and minute survey of European Agriculture. The results were to be published from time to time; three parts have appeared, and two we have before us. We design to give an outline of each chapter, number by number, making copious extracts of such parts as are particularly interesting.

While we accord to Mr. Colman great praise for his zeal, industry, enterprise and knowledge, we are obliged to confess ourselves disappointed, in many respects, with the style in which he treats agricultural subjects. His style is unpleasing by its looseness and mere wordiness. But this is more tolerable than the strained wit most ungraciously wrought in, and the yet more disagreeable mawkishness of *sentiment*.

We have no prejudices against either wit or sentiment; nor do we suppose them necessarily to be out of place in agricultural writings; but an officious simulation of them is very distasteful. Long and prosy meditations, and tame exclamatory philosophisings, crutched up by strong punctuation, fill up many pages, which "European Agriculture" might have stored with more valuable matter; and we wish that Mr. C. had taken lessons from the admirable style of many English reports on the same great subject. It is however proper to say, that the second report is, in these respects, better than the first; and we may reasonably hope that as Mr. Colman's facts and real information increase, his vicious rhetoric will subside. Upon the ability of these reports, in more substantial matters, their ability in faithfully representing the strong points of foreign husbandry, it would not be fair to pronounce, as the beginning of such a work must be relatively immature. Thus far, it has been highly respectable.

Chapter I. *General Facts and Considerations.* II, *Particular objects of Enquiry.* III, *Science and Agriculture,* are a wide waste of words, running up and down in search of ideas, and may be very usefully skipped, as taking off the edge of one's appetite for what is to come.

Chapter IV, under the very vague designation of *English Agriculture,* gives an account of the outside appearance, the superficial aspect of English husbandry, to the eye of a foreigner. We extract some parts of it: (p. 10.)

"The condition of practical agriculture in Great Britain, as far as I have had opportunity of observing it, must be pronounced highly improved. Many parts of the country present an order, exactness, and neatness of cultivation greatly to be admired; but a sky is seldom without clouds; and there are parts of England where the appearance is anything but laudable, and where there are few and very equivocal evidences of skill, industry, or thrift. We are often told in America, that England is only a large garden, in which art and skill and labor have smoothed all the rough places, filled up the hollow places, and brought everything into a beautiful and systematic harmony, and into the highest degree of productiveness. This is not wholly true; indeed, though there are many farms to be altogether admired for the degree of perfection to which their cultivation has been carried, yet there are not a few places where the indications of neglect and indolence and unskilfulness are but too apparent; and where, in an obvious contest for victory between the cultivated plant and the weeds, the latter triumph from their superiority both in force and numbers. I shall, however, most cheerfully

admit that English farming, taken as a whole, is characterized by a neatness, exactness, and thoroughness seldom seen in my own country. An American landing in Liverpool, is at once struck with the amount of labor everywhere expended; the docks, and the public buildings, and the lofty and magnificent warehouses astonish him by the substantial and permanent character of their structure. The railways, likewise, with their deep excavations, their bridges of solid masonry, their splendid viaducts, their immense tunnels extending in some cases more than two miles in length, and their depots and station houses covering acres of ground with their iron pillars and their roofs, also of iron, exhibiting a sort of tracery or net work of the strongest as well as most beautiful description, indicate a most profuse expenditure of labor, and are evidently made to endure. * * He remarks a thoroughness of workmanship which is most admirable, and which indicates a boldness and bravery of enterprise, taking into its calculations, not merely years, but centuries to come. We have in America a common saying in respect to many things which we undertake, that "this will do for the present," which does not seem to me to be known in England; and we have a variety of cheap, insubstantial, slight o'-hand ways of doing many things, sometimes vulgarly denominated "make shifts to do," which we ascribe to what we call Yankee cleverness, of which, certainly no signs are to be seen here. In front of my lodgings, in London, near Charing Cross, is now in the process of erection the Nelson monument, a Corinthian column of stone, more than one hundred and fifty feet in height, surmounted by a statue of that distinguished man, one of the idols of the British nation, whose name is regarded as the brightest gem in her naval diadem. Now I have been credibly informed that the staging alone, which is a wooden frame, constructed indeed with admirable art, and put together with remarkable skill and strength, cost not less than four thousand pounds sterling, or about twenty thousand dollars. I mention these as examples of the manner in which things are done here; and add, that agricultural operations and improvements are, in general, conducted and finished in the same thorough and substantial manner.

The walls enclosing many of the noblemen's parks in England, which comprehend hundreds and, in some cases, thousands of acres, are brick walls, of ten and twelve feet in height, running for miles and miles. The walls round many of the farms in Scotland, called there "dykes," made of the stone of the country, and laid in lime and capped with flat stones resting vertically upon their edges, are finished pieces of masonry. The improvements at the Duke of Portland's, at Welbeck, Nottinghamshire, in his arrangements for draining and irrigating at his pleasure, from three to five hundred acres of land, without doubt one of the most skilful and magnificent agricultural improvements ever made, are executed in the most finished and permanent manner; the embankments, the channels, the sluices, the dams, the gates, being constructed, in all cases where it would be most useful and proper, of stone or iron. These are only samples of the style in which things are done here. The important operations of embanking and of draining, especially under the new system of draining and subsoiling, are executed most thoroughly. The farm houses and farm buildings are of brick or stone, and all calculated to endure.

"I cannot recommend, without considerable qualifications, these expensive ways of doing things to my own countrymen. We have not the means—the capital for accomplishing them; but we might gather from them a useful lesson; for, in general, we err by an opposite extreme. * * * * *

"There are circumstances in the condition of things here, which certainly warrant a much more liberal expenditure in improvements, than would be eligible with us. Here exist the right of primogeniture and the law of entail, so that an estate remains in the same family for centuries; and a man is comparatively sure that the improvements which he makes will be enjoyed by his children's children. Things are entirely different with us—houses in our cities are continually changing hands, and are scarcely occupied by one life; and in the country, even in staid New England, few estates are in the hands of the third or fourth generation in the direct line of descent.

Chapter V. *English Capital*, instead of filling up all that so comprehensive a term suggests, is meant only to convey an idea of how vastly abundant English capital is, compared with American: (p. 14.)

"Another marked distinction, already alluded to, between the condition of the proprietors of the soil here and with us, is in the amount of the capital existing here It is absolutely enormous; and almost distances the system of numeration which we are taught at our common schools Let me mention some facts, which have been stated to me on credible authority; and let me premise that a pound sterling is about equal to five dollars United States currency. Under a law of the present government, here, levying a tax upon every man's income when it exceeds one hundred and fifty pounds sterling a year, persons liable to taxation are required to make a just return of their income under a heavy penalty. A confectioner in London, returned, as his annual income, the sum of thirty thousand pounds sterling, or one hundred and fifty thousand dollars, or six times as much as the salary of the President of the United States; which showed, at least how skilful he was in compounding some of the sweets of life. A nobleman, it is said, has contracted with a master builder to erect for him, in London, four thousand—not forty—not four hundred—but four thousand houses of a good size for occupation. In some of the best parts of London, acres of land, vast squares, are occupied with large and elegant dwelling houses, paying heavy rents, in long rows, blocks, and crescents, and all belonging to some single individual. One nobleman, whose magnificent estate was left to him by his father, encumbered with a debt of some hundred thousand pounds, by *limiting*, as it is termed here, his own annual expenditure to thirty thousand pounds, has well nigh extinguished this debt, and, in all human probability, will soon have his patrimonial estate free of encumbrance. The incomes of some of the rich men in the country, amount to twenty, twenty-five, fifty, one hundred thousand, two hundred thousand pounds sterling—even three hundred thousand pounds annually. It is very difficult for New England men even to conceive of such wealth. A farmer in Lincolnshire told me that the crop of wheat grown upon his farm one year was eighteen thousand bushels. The rent annually paid by one farmer in Northumberland, or the Lothians, exceeded seven thousand pounds, or thirty-five thousand dollars. These facts, which have been stated to me by gentlemen in whose veracity we have entire confidence, and who certainly are incapable of attempting any "tricks upon travellers," show the enormous masses of wealth which are here accumulated. A gentleman of distinguished talents and fine classical attainments, and who adds to them a public spirit in agricultural improvements, has recently added to his property, by the purchase of lands, to the amount of two hundred thousand pounds sterling, that is, a million of dollars; and his estate, now in cultivation, and under his own personal inspection, and, with the exception of about four hundred acres, lying in one body, amounts to six thousand acres. Another gentleman of high rank, has, though not all in his immediate occupation, yet all under his immediate supervision, a tract of more than twelve thousand acres in a course of systematic cultivation or gradual improvement.

"The income of a single nobleman, from his coal mines, exceeds one hundred thousand pounds sterling a year; and I believe this is not the largest of the coal pos-

sessions. With such wealth as this, men may make what improvements they please, and attempt what experiments they may deem worth trying * * * There are other circumstances in the cases which are to be added, and those are the cheapness of iron, the abundance of coal, and the admirable facility and skill with which the former material is wrought. Wood, and especially the soft woods, which are so much wrought among us, are here scarce and dear, and therefore, seldom used for building purposes; bricks, and, in many parts of the country, good building stone of the best quality, are abundant. Most of the cottages which I have seen have brick or stone floors, though many have only hardly-trodden clay and earth; and the entries of the best houses are generally payed, and the staircases made of stone. A fence of iron, affording a sufficient protection against cattle, is made here at a less expense than many wooden fences are made with us."

These are very good items, but certainly lack that completeness of investigation, which we look for in an elaborate report. But we excuse it, for something must be put into the *first* report, for which his subscribers were impatient, and little time was given for research.

Chapter VI, a page and a half, on the *General appearance of the Country*, contains some good observations, but very cursory, and they rather *give* a desire for information, than *satisfy* one already existing: (p. 17.)

"Throughout those parts of England which I have seen, there is, as I have already remarked, an exactness, a finish, and a cleanness in the cultivation, which impress a stranger most agreeably, and deserve the highest commendation. There are, occasionally, immense tracts of unenclosed commons and heaths and moors, where there is no cultivation, where nothing grows, and, in some cases, little can ever be made to grow; or which, otherwise, are abandoned to the growth of furze or gorse for the protection of the game, and the pleasures of the chase. These are called preserves, and are leased to sportsmen occasionally, or rather, the right to kill game upon them is leased, at a rate which we should deem a high rent, even for purposes of cultivation. An eminent agriculturist has shown, that, in England and Scotland, there are full 10,000,000 acres in heath or moor, all susceptible of being brought into productive cultivation. These lands, of course, remain as they are by voluntary neglect or design. But I refer to the cultivated and improved lands; and here, there is everywhere a surprising neatness and finish—everything is done, as it were, by line and measure, the corners and the headlands are thoroughly cleaned, the open ditches are kept unobstructed, the crops are drilled in straight lines, and a newly plowed field resembles a plaited ruffle from the ironing board of a good housewife. Such exactness is exceedingly beautiful, and, though it may appear, at first, to consume a good deal of time, will be found, in the long run, to be more economical than the slovenly way in which things are often done in many places, which I am reluctant to name. There is a pleasure afforded by such neatness, which is very great, and which can be properly appreciated only by those who have been largely endowed by nature with the organ of order."

Chapter VII. *Hedges and Enclosures.* Mr. Colman was, on the whole, disappointed with the hedge fences of England, for, although when carefully trimmed and cultivated they are beautiful, yet, by want of attention, they escape from all lines of symmetry, become ragged and encroach, by a constant widening, upon the arable land, and, worse than all, grow to be harbors for weeds and rubbish, and petty animals: (p. 18.)

"But I must confess myself somewhat disappointed in the condition of the hedges throughout England. Of course there are many exceptions, and perhaps the cases to which I refer should be considered as exceptions to the general fact; but in frequent instances they are greatly neglected. There are many vacancies in them; they are not well trimmed; they are intermingled with various weeds and rubbish; and, instead of being confined to a width of four or six feet, they are often seen, with their pernicious accompaniments, occupying more than a rod in width. I inquired why this was permitted; and why, when the rest of the face was so clear and bright, such dirt spots were allowed to remain; the answer was, 'that they were left thus for the protection of the game, and that they made excellent covers for partridges and foxes.' When so much care and expense are incurred in the protection of this kind of game, it is to be hoped that it may suggest always the higher duty of taking care of the human game, the hungry and ragged children, which in some parts of England are as numerous, and growing up as wild, and many of them as little taught, as the rabbits in a warren."

We have never seen any reasons for hedges in this country which were valid, all the trouble, expense, and necessarily continuous care being duly weighed. As screens about the house, and in gardens, as a background for flowers, or as a variety of ornamental fences hedges are very desirable. But for farms, as boundaries or protective fences, they are very troublesome if they are kept so as to be ornamental; and without expensive care, they are a mere vexation. Some brief statements are added in respect to the size of enclosures—lots, as we call them, which it is not needful to notice.

Chapter VIII. *Iron and Sunken Fences.* The strength, delicacy and cheapness of iron, in a country where *it* is so abundant and timber scarce, for fences, causes it to be much used in England. But in the United States, except in cities and on the estates of very opulent men, it will hardly, for very many years to come, be profitably employed. There is another ornamental fence which might be used with advantage by us: (p. 21.)

"There is another kind of fence often formed, called a sunken fence; or, "ha! ha!" from its generally taking persons by surprise, as it does not appear until you reach it. A trench is dug as deep as it is required that the height of the wall shall be from the bottom of the trench; one side of the trench is perpendicular, and against this side the wall is erected; the other side is made slanting at an angle of about forty-five degrees, and the slanting side is grassed, and may be mowed clear to the bottom, so that no land is lost; but, in truth, a small amount is

gained. The object is to conceal the fence, so that when placed round the grounds of a gentleman's house, the prospect of the lawn or field is not interrupted by an unsightly wall, and the grounds within the enclosure may be cultivated and embellished in any way with shrubs or flowers or fruit, and yet the cattle feeding beyond it, whom no visible obstruction appears to keep at a distance, are effectually excluded, as no animal ever attempts to leap such a fence.

Chapter IX. *The English Parks*, is one of considerable interest, and which, at another time we intend to transfer to our pages.

Chap. X. *Ornamental Shrubs and Flowers.* Very great expense is laid out upon great estates to stock them with ornamental trees, shrubs, vines and flowers. It has become an object to men of public spirit and wealth to supply the whole public with the advantages of ornamental pleasu re grounds. We extract from Hovey's Magazine for May, an account of the Derby *arboretum* presented by this public benefactor to the town of Derby. An *arboretum* is a space of ground set apart for shrubs and trees—as a garden is for flowers, or vegetables. (Hovey's Mag. p. 125.)

"The object of Mr. Strutt, in the formation of the garden, was, to obtain the greatest amount of gratification from a small extent of ground, and without too great an annual expense in keeping it up, when once formed. A botanical garden would involve great outlay and continued annual expense; and a common pleasure-ground would soon become a very uninteresting object, after a very few visits. That which seemed to invite the greatest interest was an arboretum, and Mr. Loudon has very satisfactorily shown its advantages over any other kind of arrangement.

"The principal entrance to the arboretum is a lodge, in the Elizabethan style, and contains, besides other rooms, one for the public, where a book is kept for registering the names of visitors. From this lodge, a straight walk continues through the centre, and another one skirts the entire garden; a cross walk intersects the middle walk, and at the termination at each end, is a large pavilion, to serve as a resting place for visitors. A large circle is formed where the walks cross each other, and the centre of this is properly reserved for a statue of Mr. Strutt, at some future time. To make the most of the land, which is quite flat, and at its widest part only about five hundred feet broad, while it is more than two thousand long, and at the same time, to shut out one part of the arboretum from another, and thus convey an idea of its great extent, mounds of earth were raised to the height of from four to five feet, so that an individual passing up the central walk, would not see one on the side walks; and on the sides of these mounds are planted the trees which form the arboretum: a belt of old trees extends around the whole garden. * * *

"The trees have only been planted four years, and were, of course, not yet large; some of the specimens have grown well and make a fine appearance, while others had almost stood still. Many of the pinuses were yet very small. The whole surface is laid down to grass, and around each tree is a dug circle of from two to five feet in diameter, which is to be kept so till the trees get well established. The grass was short and well cut, and the walks were hard and in good order. Five years more will make a great difference in the arboretum; at that period many of the trees will be twenty five feet high.

"Besides the two pavilions we have noticed, there is an arbor formed of a single tree of the weeping ash, the branches extending on all sides to the ground, and covering a circle nearly a hundred feet in circumference. A lodge, in the Tudor style, is erected at the east entrance.

"As a feature worthy of imitation, we may notice the planting of the trees; these are all raised above the ground so as to show the base of the stem. No error is so great as that of planting too deep; for, besides the injury the trees sustain, they have an unnatural appearance. We would here caution all who plant trees, to place them full as high as they were when growing in the nursery. All the trees and plants are labelled on brick tallies, placed in the ground. These labels are placed under a plate of glass, which is puttied in, and secured by paint from the effects of the weather. To strangers, and especially those who feel desirous of knowing the names of trees, this is a source of great interest. A small spot of ground is devoted to flowers, and a show of annuals is kept up the whole season.

"When the arboretum has been established several years, if properly kept up, it will be of great benefit to the public, especially to individuals who are ornamenting their grounds; an opportunity will be afforded of selecting only such trees as are beautiful for their flowers, their foliage, or their fruit; the rapidity of their growth will also assist in choosing such as soon form a tree, where they may be wanted for the purpose of immediate shade or shelter. Viewed in this light, an arboretum, planted with every species or variety of hardy tree, and properly taken care of, is one of the best purposes to which a garden could be devoted, and especially so in this country. How

limited a variety of trees comprise the whole number surrounding many of our country villas: elms, horse-chestnuts, mountain ash, limes, and abeles, constitute nearly all. This paucity of variety is, however, the result of a want of knowledge of the immense number of kinds suitable for such purpose, as well as of the beauty and appropriateness of many trees to particular situations. But a living specimen ten years old, would at once convey the idea of what might also be expected in the same time, under ordinary treatment and cultivation."

To some extent, this taste for flowers extends to the poorer classes. Mr. Colman mentions generally, that some villages and cottages are ornamented with finely trained flowers. But from other sources we obtain yet more vivid ideas of the interest felt by the poorest day-laborers in ornamenting their petty patch of grounds. Many think that floriculture is an effect of wealth; but it is rather the effect of *taste*, and although wealth enables some to excel others, it adds nothing to the keen relish with which the mind enjoys.

The famous Lancashire gooseberries, are from the grounds of *mechanics*. All the prize sorts, for years, originated in the zeal of industrious weavers and other operatives who found leisure, because they had the taste — to perfect the cultivation of this fruit. Mr. Howitt gives a very pleasing account, in his Rural Sketches of England, of the gardens of the poor: (p. 457.)

"Many cottagers, again, are most zealous and successful florists.* This is a taste full of beauty, and possessing a high charm. To select rich and suitable soils; to sow and plant; to nurse and shade, and water; to watch the growth and expansion of flowers of great promise; — it is sufficient for the enjoyment of one spirit.

"The number of flowers now cultivated by florists, is much increased to what it was. They had only the polyanthus, auricula, hyacinth, carnation, tulip, and ranunculus; but the splendid dahlia and the pansy now engross much of their attention and admiration. Others, again, are collectors and admirers of insects; and, as education extends, natural history will no doubt receive many zealous adherents from the operative ranks.

* * * * * *

"There are, in the outskirts of Nottingham, upwards of 5,000 gardens, the bulk of which are occupied by the working class. A good many there are, belonging to the substantial tradesmen and wealthier inhabitants; but the great mass are those of the mechanics. These lie on various sides of the town, in expanses of many acres in a place, and many of them as much as a mile and a half distant from the centre of the town. In winter they have rather a desolate aspect, with their naked trees and hedges, and all their little summer-houses exposed, damp-looking, and forlorn; but, in spring and summer, they look exceedingly well; — in spring all starred with blossoms, all thick with leaves; and their summer-houses peeping pleasantly from among them. The advantage of these gardens to the working class of a great manufacturing town, is beyond calculation; and I believe no town in the kingdom has so many of them in proportion to its population. * * *

"Early in spring — as soon, in fact, as the days begin to lengthen, and the shrewd air to dry up the wintry moisture, you see them getting into their gardens, clearing away the stalks of last year's growth, and digging up the soil; but especially on fine days in February and March are they busy. Trees are pruned, beds are dug, walks cleaned, and all refuse and decayed vegetation piled up in heaps; and the smoke of the fires in which it is burnt, rolls up from many a garden, and sends its pungent odor to meet you afar off. It is pleasant to see, as the season advances, how busy their occupants become; bustling there with their basses in their hands and their tools on their shoulders; wheeling in manure; and clearing out their summer-houses; and what an air of daily increasing neatness they assume, till they are one wide expanse of blossomed fruit-trees and flowering fragrance. Every garden has its summer-house; and these are of all scales and grades, from the erection of a few tub-staves, with an attempt to train a pumpkin or a wild hop over it, to substantial brick houses with glass windows, good cellars for a deposit of choice wines, a kitchen, and all necessary apparatus, and a good pump to supply them with water. Many are very picturesque rustic huts, built with great taste, and hidden by tall hedges in a perfect little paradise of lawn and shrubbery — most delightful spots to go and read in of a summer day, or to take a dinner or tea in with a pleasant party of friends. —

* So successful that they were amongst the first to raise fine flowers before floral societies and flower shows were in existence; and the names of some of these village florists are attached to some of the finest specimens, Hufton, Barker, and Redgate, appellations which some of our finest carnations, polyanthuses, and ranunculuses bear, are those of old Derbyshire villagers, well known to me, who scarcely ever were out of their own rustic districts, but whose names are thus made familiar all the country over.

Some of these places which belong to the substantial tradespeople have cost their occupiers from one to five hundred pounds, and the pleasure they take in them may be thence imagined; but many of the mechanics, have very excellent summer-houses, and there they delight to go, and smoke a solitary pipe, as they look over the smiling face of their garden, or take a quiet stroll amongst their flowers: or to take a pipe with a friend; or to spend a Sunday afternoon, or a summer evening, with their families. The amount of enjoyment which these gardens afford to a great number of families is not easily to be calculated — and then the health and the improved taste! You meet them coming home, having been busy for hours in the freshness of the summer morning in them, and now are carrying home a bass brim full of vegetables for the house. In the evening, thitherward you see groups and families going; the key which admits to the common paths that lead between them is produced; a door is opened and closed; and you feel that they are vanished into a pure and sacred retirement, such as the mechanic of a large town could not possess without these suburban gardens. And then to think of the alehouse, the drinking, noisy, politics-bawling alehouse, where a great many of these very men would most probably be, if they had not this attraction, — to think of this, and then to see the variety of sources of a beautiful and healthful interest which they create for themselves here: — what a contrast! — what a most gratifying contrast! There are the worthy couple, sitting in the open summer-house of one garden, quietly enjoying themselves, and watching their children romping on the grass-plot, or playing about the walks; in another, a social group of friends round the tea-table, or enjoying the reward of all their spring labors, picking strawberries fresh from the bed, or raspberries, gooseberries, and currants from the bush. In one, you find a grower of fine apples, pears, or plums, or of large gooseberries; in another, a florist, with his show of tulips, ranunculuses, hyacinths, carnations, or other choice flowers, that claim all his leisure moments, and are the source of a thousand cares and interests. And of these cares and interests, the neat awning of white canvass, raised on its light frame of wood, the glasses, and screens of board and matting, to defend those precious objects from every rude attack of sun, wind, or rain — all these are sufficient testimonies, and tell of hours early and late, in the dawn of morning and the dusk of evening, when the happy man has been entranced in his zealous labors, and absorbed in a thousand delicious fancies, and speculations of perfections. Of late, the splendid dahlia and the pansy have become objects of attention; and I believe of the latter flower, till recently despised and overlooked, except in the old English cottage-garden, there are now more than a hundred varieties, of such brilliance and richness of hue, and many of them of such superb expanse of corolla, as merit all the value set upon them.

"*This is the allotment system of the manufacturing town;* to the full as desirable as that for the country, and which may be facilitated, fraught as it is with abundant physical and moral good, by philanthropic individuals to a great extent. At Nottingham, as I have observed, the taste seems to have grown up originally of itself, and then, exciting the attention of speculators, has been extended to its present growth by them. The mechanics there have not their gardens at a cheap rate. They all say that they could purchase their vegetables in the market for the amount of their rent and incidental expenses; but then, they get the health and the enjoyment, and their fruit and vegetables they get so fresh.

"There are, according to a personal examination made by myself, now, upwards of five thousand of these gardens, containing, as single gardens, 400 square yards each, — the general scale of a garden; though a good many are held as double, and even treble gardens. These let at from a half-penny to three half-pence per yard; but averaged at three farthings, make a rental of 1*l.* 5*s.* per garden, or a total of 6250*l.* Five thousand gardens of 400 yards each of clear garden ground, independent of fences and roads, give 413 acres and about a rood. Now, if we add one-fifth for fences and roads, the total quantity of land occupied is 496 acres, or, we may say, in round numbers, 500 acres. Here then, 500 acres, which at fifty shillings an acre — a good rent for ordinary purposes, would yield a rent of 1250*l.*, yield, by being converted into gardens, a rent of 6250*l.*, or a clear profit of 5000*l.*"

Now we confess that the sight of such gardens would affect us more than the vastest conservatories which mere wealth could build; just as the widow's two mites cast into the treasury were more noticeable than the great gifts of the rich. The poor rear flowers because they love them; because their grace and beauty cheer and adorn the loneliness of their cottage, and they become to them almost as living companions. An account of the green-houses and conservatories of England and the Continent, for which we have ample materials, we reserve to another time.

Chapter XI. *Climate of England.* We are disappointed at the excessive meagerness of this chapter. Until within a few years, almost all our garden books, fruit manuals, and even now all our standard physiological works were of English origin. They are full of directions arising from the peculiarities of that climate. A writer recently stated that the introduction of *turnep culture* had increased the value of farming products, at least £60,000,000 per annum. But the whole system is inapplicable to the United States merely from difference of climate. The intense summer heat, and the frequent severity of summer droughts interpose a great obstacle to their growth. In England turneps are left on the field, and are fed off from it, without being gathered, by turning the sheep upon them. But with us this would be impracticable from the severity of our winters; and the labor of harvesting root crops in any thing like the quantity which are grown in England, would be expensive and laborious beyond all profit.

There is hardly a county in all England, —none unless a few extreme southern ones— where the peach will ripen in open air, so cold and cloudy are their summers. With us trees need no pruning; fruit ripens in the densest shade of the thickest tree, so warm is the mere atmosphere. All the English books abound with directions for pruning, which, in that cloudy island, is necessary to let in light and air through the tree. With us pruning is a very inferior item of cultivation, and is designed to correct deformities and not to aid the tree in fruiting. Indian corn will not, frequently, ripen enough in the climate of England for roasting ears, and never entirely ripens. With us it is a staple, even in New England. Now, as we are so dependent upon English practice for our notions by the study of their works, it would seem exceedingly desirable to have had in Mr. Colman's report a thorough treatment of the climate, facts, figures, and all. We give, however, all his remarks pertinent to the matter, (p. 32.)

"Another marked difference in the agricultural condition of England and the northern portion of the United States, is in the climate. I cannot speak with any confidence of Scotland; but the climate of England must be pronounced highly temperate. It is favorable to the growth and the constant vigor and freshness of the grasses. It is not only temperate, but moist. The last season may have been peculiar. I landed in Liverpool near the end of April; and there was more or less rain for forty-six days in succession, until I became quite satisfied that an umbrella was as necessary as a hat, and that it would be advisable to fasten it to my back. When the clear weather finally set in, we had two months or more, of as fine weather for harvesting as I ever knew, with scarcely the intervention of a day's rain; yet there was nothing of the parching heat of our summers, and I saw no land burnt up by drought. It is now December, and I have scarcely seen any ice, and not a flake of snow; and there is no frost in the ground. Many persons speak of this as the usual temperature, and say that the cold weather does not commence until after Christmas. The dews appear to me very light, owing, as I suppose, to the mildness of the days; and there have been none of those blowing clouds of dust, with which our air is often charged, and which with us, after long droughts, are very disagreeable. Of thunder and lightning this season I am unable to recall a single instance; and at no time of the day has the heat been in the slightest degree oppressive.*

"Their insular situation exposes them to frequent and dense fogs, which interpose to prevent the earth being ever parched by drought; and the rains to which they are subject, keep the earth, where it is of a retentive character, much soaked with water, and preserve an almost perpetual greenness of vegetation.

"In many parts of England the crops of turneps are never pulled, until they are wanted for feeding in the course of the winter; in other places, they require a very slight covering to protect them from the frost. In most cases sheep do not require to be housed; and in some cases neat cattle get their chief living in the fields through a great part of the winter, though I cannot but regard this practice as very bad husbandry. Plowing

* The annual average depth of rain in England is about two feet. In 1840, for instance, the depth at Aberdeen was 24.627 inches; at Empingham, 18.58; Epping, 20.767; Falmouth, 31.511; Gosport, 25.525; Greenwich, 18.24; York, 24.72 inches. That is perhaps not much below the average of the continent of Europe. Some portions of western Europe, however, are exceedingly wet; 123 inches have been noted to fall at Coimbra in Portugal in a year. The fall of rain is still greater in the West Indies. At St. Domingo, 120 inches; at Cayenne, 116 inches; at Maranham, 277 inches. So that even under the equator, a sufficient supply of rain water can be obtained for the service of the inhabitants.—*Farmers' Almanac.*

appears to be seldom interrupted for any length of time; and wheat is sown from October to April."

There are two other, and the two best chapters, in the first number, of which we shall speak in our next number.

ORIGINAL CORRESPONDENCE.

Many of the facts detailed in the accompanying letter are worthy of attention. The cultivation of the fig has always been a favorite object with us. Dr. Dwight, formerly President of Yale College, cultivated figs in the open garden at New Haven, with success. We were informed by Mr. Sherman Day, son of President Day, who cultivates the same garden, that the trees were still alive. It is well known that figs are cultivated about Paris, whose climate would seem to be no more congenial to them than our own. In order to succeed, *hardy varieties* should be obtained. If we had known the grape only by the introduction of the tender foreign varieties, it would have been thought impossible to save vines from the effect of our winters. Next, figs should be protected during the first two or three winters of their open exposure. A northern aspect is to be preferred to a southern one, for the sun kills more plants in winter than the cold does.

We are glad to learn so simple and easy a mode of saving seed peas from the effect of the bug. We have, hitherto, always bought northern-raised peas, because we would not plant our own buggy ones. We shall try the labels mentioned.—*Ed. Ia. Farm. and Gard.*

Dr. Plummer's Letter.

For the Indiana Farmer and Gardener.

Figs.—In the spring of 1828, I brought from New Haven, Connecticut, three fine fig trees, and planted them on the south side of our dwelling house, in a warm situation and rich soil. In that year, and for a few seasons afterward, they produced fruit; which however, had very little resemblance in taste to the foreign fig.

The extremely cold winters which soon followed, I thought put an end to them, as they had always been left exposed throughout the year. Marrying and leaving my father's house, I thought no more of them. Years passed: and in 1844, visiting a nurseryman's premises in this place, some fig trees attracted my attention; and their history proved to be the history of my own trees. They had not died; but had passed from hand to hand for seventeen years, and finally found their way back into my own. For aught I know to the contrary, they were the first trees of the kind introduced into the State.

These trees, or rather shrubs, for they never attained to more than five or six feet in height, are easily propagated by separating the roots, and planting them in a common garden soil. If left out in the winter, the tops always die down to the roots; and rather late next season, several new shoots make their appearance. But if the plant is housed seasonably in the fall, it makes an agreeable addition to the green-house; and is much more sightly than many other shrubs, which I have seen in such places.

Signs.—There is a class of men who are in the habit of adopting certain adages, and repeating them, all their lives, without attempting to verify them by rigid observation. This remark is particularly applicable to the maxims of the weather-wise.—Among the prognostications of these, is a "hard winter always following a season of great abundance, especially of fruit." I take this quotation, substantially, from the American Agriculturist. Now, let us turn to the simple facts which have, comparatively, but just passed under the notice of every one. Last fall was a "season of abundance, especially in fruit," if we have ever had an abundant season. At the western part of our State, I observed many peach trees breaking down with the weight of fruit. The apple, peach, cherry, and other fruit trees at the eastern side, and I believe in the middle of the State, were also loaded. And what kind of a winter have we had? Has it not been so *remarkably mild*, as to have excited the remarks of the most unobservant? It is a fact, that the medium noon temperature of the past winter was as high as—*

The statement, that we have had a *mild* winter after an abundant fruit season, being based upon incontrovertible facts, let the adage, which has been the subject of this animadversion, be laid forever to rest.

Dead Rats, &c., and a spectacled Parsnep.—In the "Young Farmer's Catechism" it is stated (p. 24,) that "dead rats, cats," &c. furnish food to plants. A striking instance of the truth of this assertion occurred

* We perceive that, by some casual inadvertence, our correspondent has omitted a very essential item in thermometric reports—*numerals*. We trust that he will enable us to supply them in our next number; while in the mean time we are forced to acknowledge that such information is not accessible in this place, through want of any reliable observations.—*Ed. Ia. Farm. & Gard.*

in my own garden last fall. A dead dog, which, no doubt, was as good as a dead cat, was buried about twenty inches below the surface, and a bed of parsneps cultivated over his grave. The gases originating from the decomposition of the animal matter, no doubt permeated the surrounding soil, from which the roots absorbed them, and converted them to their own use. At a little distance from the place of burial, the roots were of ordinary size; but just about the spot where the influence of the gases would be felt, the parsneps were uncommonly large. The average of several I weighed, was forty ounces, and the circumference sixteen inches. The whole bed was overrun with luxuriant tomato tops, from the adjoining ground, or the parsneps would have attained, perhaps, a still greater size. The roots were all firm and crisp throughout; and one of them, as if it had not been able to see its way downward into the dark earth, *slipped on a pair of spectacles;* but, as the glass was missing, it awkwardly ran its nose through the place the glass once occupied, and passed on downward. The enlargement of the root, where the spectacles finally rested, almost buried the circular part of the frame, and turned the parsnep into a curious *spectacle* itself.

The fertilizing effects of a buried dog, shows the advantage of interring dead rats, &c., in our gardens, or compost heaps, instead of throwing them into the streets, to fumigate the air with their putridity.

Peas.—On reading the article "Peas," in the present volume, p. 74, I avail myself of the occasion, to state, that for many years, I have been in the habit of destroying the almost invisible larves of the pea bug, by pouring boiling water upon the peas immediately after they are gathered. The vitality of the seed is apparently not at all affected; and the bugs never infest my peas. A *suitable* vessel must be provided to put the peas in, when the water is added; and the time the water remains on them must be proportioned to the conducting power of the material of the vessel, whether it be wood, earthenware, tin or other metal. If the tin vessel should be highly polished, as when newly cleaned, or newly made, the heat will be very slowly radiated from the water, and of course the peas should not remain so long in the hot water. One minute in a dull, tarnished wash-basin, is sufficient. But a more easy, and an equally efficient method of avoiding the bug, I have also practiced for years; and that is, to put the peas, as soon as dried, into a jug or bottle, or anything that can be hermetically sealed, place the cork or stopper in, and cover it carefully with wax. Nothing will be seen next year but the speck spot in which the larve died. My peas always succeed well, as to germination. Perhaps the first method would be best for field crops; and the second for garden crops.

Labels for Trees. (See p. 37, Indiana Farmer and Gardener.)—I have tried a label which is not "easily effaceable," and does not require repairs. About 150 of my trees are provided with them. I cover slips of tin with wax, write on it with an awl so as to expose the tin; and then apply diluted nitric acid for a minute or two. This simple process of engraving, is cheap and expeditious, and makes a black, durable, and neat letter, if properly executed. I fasten the labels to my trees by tacks, driven through holes at one end of the tin. J. T. P.

Richmond, Ia.

Artificial Irrigation.

For the Indiana Farmer and Gardener.

SIR:—In your publication of the third inst. (No. 8,) I perceive that a correspondent who writes under the signature F. has given the first of a series of essays on Electricity and Vegetation. F. seems to understand the subject on which he writes, and it is not therefore my intention to make any remark upon his essays, or to interfere with them; but his essay reminded me of a project which I had long ago formed, and which I should have put in practice if circumstances had permitted, of giving to a garden in time of drought, and particularly to hot-houses and conservatories, the plants in which can seldom or never have the benefit of a shower, all the advantages of a natural rain.

From my earliest youth I can remember gardeners speaking of the superior effects of a shower to those of a watering-pot upon their plants. The reason why the shower was more beneficial I suppose they knew not, nor ever gave themselves the trouble to consider. The fact was so, and that was all they knew or probably cared about it; but there was something in the rain water, they said, which caused vegetation to thrive better than did any other water; and therefore they saved rain water from every shower, for the purpose of watering their plants with it, in preference to the water which they could obtain, with perhaps less trouble, from rivers or springs.

We know—the electrometer tells us so—that scarcely a drop of rain falls from the clouds which does not contain more or less of the electric fluid; and scientific men have very properly ascribed to this fact the superiority of rain for gardens over any other mode of watering. Now sir, you and I have seen, in the east, little machines for watering gardens

and for watering streets too, made upon the principle of a fire engine, by means of which water can be propelled to a considerable distance. In watering gardens I suppose (for I have not seen the machine used for that purpose) it is proper to apply the rose of a watering pot, or some other perforated piece of metal, in order to separate the stream into drops; but this may be dispensed with entirely, and the conductor of an electric machine be applied near the end of the pipe whence the water issues. The electric fire thus applied will separate the stream into drops, and give it all the effect of a thunder-shower.

I suppose it would be proper in this case, as in every other. that the water should be of the temperature of the atmosphere. G.

G. is undoubtedly correct in attributing to rain water great superiority in its fertilizing power; but as we understand the philosophy of the matter, it owes this superiority not so much to the presence of an electric fluid (for the very *existence* of such a substance, is as yet hypothetical) as to the fact that the small drops of water traversing great space of *impure* air absorb all of those elements that can be retained by water, chiefly ammonia and carbonic acid, which are given up again to the support of plants. And the reason why a thunder-storm affords richer water than a long rain is, that previous to it, the air generally is more fully impregnated with the above elements.

But, as no result is too surprising for belief when electricity is the agent, we would like to see G.'s proposal tried, and see what it would do.—*Ed. Ind. Far. & Gard.*

For the Indiana Farmer and Gardener.

Electricity and Vegetation--No. 2.

The vital principle being, as I remarked in my last communication, identical in plants and in animals, differing only in the completeness of its developement and the vigor of its action; it will not therefore be thought foreign to my subject announced, to consider briefly the physiological effects of electricity, or its effects upon animal life and growth.

I shall speak of them under two heads; first: those which are produced in the *living animal*, which are, in their nature, not so active in altering the *kind* of action, or constitution of the subject, as they are powerful promoters of the vigor naturally existing; and next, I shall notice the effects of electricity upon the *matter* of which the animal is composed, which are of course nearly coincident with the action of this agent upon organic matter in general.

When death by lightning is no uncommon occurrence, it is superfluous for me to say, that electricity may produce death under certain circumstances; still the specific derangement caused by a stroke of lightning seems, as yet, not to be satisfactorily ascertained. An examination after death seems to indicate an extent of mechanical violence and injury, by no means as aggravated as we should be led to anticipate, if we were to judge by its apparent power when the lofty tree is shattered into a thousand pieces. Externally, there are usually no marks of violence; and internally, there is no rupturing of membrane nor rending even of the most delicate tissues; the blood appears somewhat changed—its color is deepened almost to a black, and around the vital organs, chiefly the brain and lungs, it seems to have collected, producing congestion more or less aggravated.

There is a popular feeling, which invariably associates the flash of lightning with the descent of some missile, which strikes and shatters; and more than one person have I seen dig at the uptorn roots of a riven tree, to search for the bolt. But it should be remembered that it is not the electricity, that splits the tree by direct force, but, it so highly charges the particles of wood, that they mutually repel and fly asunder, as is seen on a small scale in the repellant hairs of a cat's tail on a cold dry day.

Leaving these violent exhibitions of this wonderful agent, upon which much might be written, I observe, that when, by any contrivance, a shock, or a succession of shocks is administered, which are not so intense as to be painful, a powerful stimulation of the nervous system is experienced, accompanied by increased vigor and strength in the muscles. This effect is neither imaginary nor even temporary; this is seen in cases of paralysis, where the nerves of motion have become entirely inert, so that the will no longer holds control over muscular action, but which often again resume their function, under the powerful stimulation of electricity. The contraction and twitching of the muscles under the influence of this agent is perfectly natural, and in cases of weakness, arising from sprains or other injury, has been found to be a very convenient mode of exercising them, thus promoting their strength.

I am tempted here to digress a moment, to enter a protest against all those rank deceptions in the form of medicines, which, assuming the name, claim the efficacy of judicious applications of electricity. Every electrician knows that a magnetic pill or electric ether or galvanic plaster are

insufferable absurdities, bringing more money to the proprietor's pocket than health to the purchaser's body.

It has been proved, that, immediately after death, while the vital warmth is yet retained, a perfect, life-like action of all the muscles of the body may be produced by passing through them shocks of electricity. In cases of apparent death by drowning this application has been found useful, when all others failed and all hope had ceased. Various detailed accounts of scenes, witnessed in experiments upon the bodies of recently executed criminals, have appeared on both sides of the Atlantic, all of them representing the results as too horribly life-like to be perused without great firmness and self-control. Suffice it to say, that in this artificial way, the chest may be made to heave, the eyes to open, the face to become expressive, the limbs active, and, in short, every thing life-like may be effected, lacking but one quality--permanence; the shocks ceasing, the struggling form becomes again a corpse.

These and similar discoveries seem to indicate, to say the least, a striking resemblance between the mysterious principle of life, and the equally mysterious principle—electricity.

I come next to the phenomena exhibited, when electricity is acting upon organic matter after vital action has ceased.

In all cases, there seems to be a hastening of the natural rate of decomposition and decay, produced by this agent; but in all of which, it seems difficult to determine exactly the mode of action. The fact however is well known; the carcase of an ox which has been killed by lightning, will be found to decay one half sooner than it should in dying under the knife; and, as closely allied to this, I may note the souring of milk, *instantaneously* produced in a dairy which was struck by lightning. Every dairy-woman knows by experience the souring influence of a thunder storm upon her creamy treasures; but it is uncertain whether this is as much due to the electrical state of the atmosphere as to a change in its chemical constituents.

Some writers upon organic decay, base all their reasonings upon the very plausible hypothesis, that this decomposition is the gradual dissolution of the several elements, previously collected and retained by means of vital action; and consequently have inferred that any agent which would re-act so as to assist by new affinities the solving of the old, would materially expedite the process of decay. Experiment seems to corroborate this inference, and so far the hypothesis.

It is then not absurd to suppose that electricity, holding as I have shown an almost supreme control over chemical affinity, should in the absence of the bond of vital organization—life—come in as a powerful divorcer of the elements of an organic compound, and consequently a promoter of decay.

But, it may be properly asked, is there any evidence, that in the ordinary course of nature respecting organic life and health this agent performs any essential office?

I reply that, so far as I know, there has been no absolute demonstration of any such function devolving upon electricity. A great mass of detached facts already await the hand of the great man who will ere many years systematize them and give a name and nature to the agent.

At present the case stands thus: there is abundant evidence that electricity is a powerful agent *everywhere*. There is also as complete proof that causes are in operation which we know must constantly develop electrical phenomena, so that it would seem that the question was no longer *whether* but *where!* And our search should be directed accordingly. F.

[*To be continued.*]

Dr. Kirtland, on the Location of Orchards.

(*Concluded.*)

We have already made some remarks upon the influence of soils over the fruitfulness of orchards. A large amount of silicious sand and gravel enters into the composition of our fruitful chestnut ridges, and experience shows us that this soil is congenial to the health and durability of fruit trees. How much influence this silicious character has in preventing the occurrence of frosts we are not prepared to state. Perhaps it has no agency in this respect, but it is certain that even when spring frosts do occur on such localities, it does far less injury to vegetation than the same amount would on clay lands. We have known the ground to freeze quite firm, and ice to form several lines in thickness on water, about one of these silicious ridges at the time peach blossoms were fully exposed, and yet the fruit escaped. The same amount of freezing on a clay soil would have destroyed every fruit.

It is no uncommon occurrence for orchards standing upon the verge of some large stream or collection of water to escape from the injury of vernal frosts that destroy the blossoms very generally through the country. Thus it was, with the orchards in the valley of the Mahoning river, especially in the neighborhood of the slack-waters of the canal, during the last season; they were uninjured by the great frost that destroyed most of the fruit in northern Ohio, early in the month of June, a frost that was more severe

than any that has ever occurred except that of the year 1834.

The fruit crop is very often preserved by this course at Economy, Beavertown and along the banks of the Ohio river. In 1834 the orchard contiguous to the light-house at Fairport bent under its load of fruit, while the orchards throughout the country generally hardly produced a solitary specimen.

The volumes of cold air, in these instances descended from their specific gravity into the valleys where these orchards were situated, but these effects were concentrated by the warm emanations from the water. These emanations not only served to procure a higher and safe degree of temperature, in the vicinity of the water, but also, by their motion while altering positions with the colder air, to keep up a succession of breezes, that exert an important influence in a cold night, in preserving tender fruits. The quantity of water must of course be large to produce any sensible effect, and it is only on the banks of the larger streams and lakes that it is very perceptible; even then the degree of cold, may be so low that the local cause of warmth may not be sufficient to counteract it. Such was the case in most localities even on the shores of Lake Erie in 1834; and it is to be apprehended, that during the present spring, vegetation is so prematurely advanced and the waters of the lake so cold, with a large extent of ice covering its north-eastern extremity, the local emanations of warmth may not be sufficient to overcome the extreme cold that rushes in from the north, sufficiently to preserve the expanded fruit blossoms.

The favorable influence of large collections of water, in preserving fruit from vernal frosts, is manifested more strikingly and with more certainty on the south shore of Lake Erie than in any locality with which I am acquainted. At the approach of a cool night that threatens the fruit blossoms, a gentle south wind will often commence blowing and gradually increase till morning when the temperature will have become many degrees warmer than it was at evening. On these occasions the lake being the warmer body, there ascends from it volumes of warm air, while volumes of cold and heavy air rush in from the shore and the surface of the earth to supply their place. The upper currents pass off towards the south till they become somewhat cooled, then gradually descend in curved lines, till they at length fall in with the under currents and make their way back to the lake. This circulation continues through the night, and each succeeding volume grows a little warmer, till by morning the temperature on the surface of the shore and to some distance in the interior is sensibly augmented. This influence does not however extend back from the lake many miles.

The cause of these revolving currents is often rendered sensible to the eye when mists rise from the lake or large collections of smoke are generated by burning bodies on shore. They will follow the course of both the upper and lower currents, the one towards the south and the other towards the lake.

In other instances, at the approach of a cold night in the spring, there may not be a sufficient breeze to dissipate the warm emanations from the water, and in that case the atmosphere will become thick and hazy and all danger from frost is obviated. It however occasionally happens that the temperature of the air is so low that the earth cannot send off warmth enough to counteract it; and the thermometer will perhaps fall as low as 27°. The ground may then freeze stiff, ice form several lines in thickness on standing water, and to all appearance the fruit blossoms be frozen beyond recovery, yet with the first appearance of the sun in the morning, a thin haze will often spread over the horizon, and during the day the frost will be gradually abstracted, without destroying the vitality of the fruit blossoms. Some one of these contingencies happens to save our fruit almost every spring. In 1834 the amount of the cold was so great that the local influences of the lake could not counteract it except to a very limited extent. A few orchards on the immediate verge of the water escaped and produced their usual supplies of fruit.

This immense expanse of water is also exerting its influence at other seasons of the year to render its shores the most favorable location for fruits in the United States. During summer it is accumulating warmth and at the approach of autumn it gradually gives it off to the atmosphere and prevents the occurrence of frost here one month later than in the counties remote from the lake. As a general rule tender vegetables are killed by frost about the 30th of Sept., in Trumbull, Portage, Stark, and Wayne counties except upon the high chestnut ridges. On the shore of the lake this usually takes place about the 20th of October.

For several years in succession, I found from observation that the dahlias were killed on the same night at Cleveland and at Cincinnati, though they had been destroyed a month earlier in most of the country intervening.

This extension of the season for a month in autumn enables the recent growth of the peach, apricot and cherry to mature perfectly before the setting in of winter. Here the

peach leaves drop early in October from having matured and performed their functions. While in the interior counties they drop from having been killed by frost, while still in active operation. This renders the fruit buds in such localities tender and diminutive, which, with the sudden approach of cold weather early in winter, may entirely destroy them. Half hardy plants will survive the winter as well at Cleveland as at Cincinnati—such for instance as the magnolia, macluras, &c.,—and the English cherry tree is far more healthy and long-lived in the former than the latter place.

In Trumbull county the macluras or osage orange is almost invariably killed to the ground during winter—while on the Lake shore it is apparantly as hardy as any indigenous tree.

Our winter apples and pears, by being permitted to hang upon the trees till the middle of Oct. without suffering from frost, attain a much higher flavor than if they were required to be gathered in September. Again, during winter the lake exerts a benign influence over the climate and thus over the fruit trees. It is a common but mistaken idea that it is much colder on its shores than in the interior; the reverse is true. The thermometer during the severest weather of winter will not fall as low by 8 or 10° as in the counties before enumerated. The correctness of this statement we have tested by a series of observations. Lake Erie never freezes entirely across from this place, and the great body of the water remains at about 40° though the surface to a great extent may be covered with ice. However cold the atmosphere generally may be, the emanations from the great bodies of water at about 40° will mitigate to some extent the severity of the freezing.

It is true that a dampness and chillness prevails in the atmosphere here frequently during winter and spring, which to the animal system is severe, but they are most apt to occur when the thermometer does not indicate a very low degree of temperature, and though extremely uncomfortable to man they seem peculiarly congenial to the vegetable kingdom. At the approach of spring, the lake, with its investiing sheet of ice becomes the colder body and still serves to exert an important influence over our fruit trees by keeping back the progress of vegetation. So long as one acre of ice remains in the Lake, even as low down as Buffalo, vegetation will generally make very little advancement. The dreariness of winter will probably still linger here, after spring has prevailed several weeks fifty miles farther south. As soon however as the last remnant of ice has passed out of the Lake, spring rapidly approaches, the water becomes warm, vegetation puts forth with great vigor and it does not suffer from the interruption of frosts. At the end of six weeks, vegetation will have made as great progress, as in the interior of the State. During the present spring the unusual and long continued prevalence of warm weather has made this season an exception to these remarks—our fruit buds have been forced out while large fields of ice float in the vicinity of Buffalo, and it will be remarkable if our crop of fruit should escape destruction till the waters of the Lake get their proper degree of warmth to become a sure source of protection.

The silicious character of the ridges on the south shore of the Lake renders the surface of the earth very warm during summer and autumn, and aids essentially the ripening of many kinds of fruit, as well as the young growth of wood. A review of this subject will probably lead the Horticulturist to select the dry, gravelly ridges nearest to the Lake as the most favorable locations for the production of fruit in Northern Ohio—even if he were not to take into consideration the superior advantages for the sales of his productions such location offers. His next choice should be, the high chestnut ridges that spread over different parts of the Western Reserve—*Wes. Res. Mag. of Agr. and Hort.*

(*From the Prairie Farmer.*)

In regard to the controverted question of deep or shallow planting, my notions run about thus wise: If the soil be deep and dry either mode will answer very well. In such a soil, however, where the subsoil has been taken out, as it should be in all cases, and a good bed made for the tree, deep planting is a *leetle* the best. Whereas in a wet clay soil deep planting is often fatal, and never as good as shallow planting. Good trees may be raised in very wet land by throwing up a hillock so as to set the roots of the tree entirely above the natural surface.

We felt great pity for the farmers on the American Bottom whose lands were deluged by the great freshets of 1843. Mr. Solon Robinson, however, thinks no very great harm was done.

"The American Bottom wears a gloomy appearance since the flood—*so it did before.* For it is full of just such farmers as this almost houseless, barnless, orchardless, grassless, goose shire-hog breeder, just mentioned, who have lived, many of them, in the same little old black log cabin, on the same round of corn bread and bacon, even a longer time than he has. It is a fact that you can find more real improvement, such as we think necessary for the comforts of civilized society, in one day's ride through northern Illinois or Indiana, than ever was seen upon the American Bottom in the hundred years that it has been settled."

Some person inquires how he shall cure the belly ache in sheep. Give them tobacco juice—small quantities at a time, poured down them, and by injection; or insert a piece of tobacco instead of the injection—a smooth moist segar is the best. Tobacco juice is the best physic to give young lambs that can be given them. I have frequently cured sheep and horses of the belly ache by inserting a piece of tobacco; and have saved lambs by giving them water in which tobacco had been steeped strong.